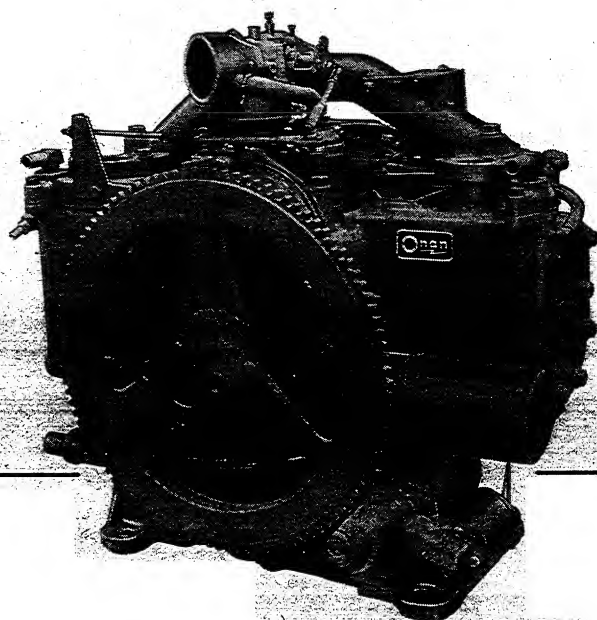


McGRAW-EDISON

Onan

Parts Manual

**RCCK
Engine**



927-0256
10-82 (SPEC A)
REPLACES
9-79 (SPEC A)
Printed in U.S.A.

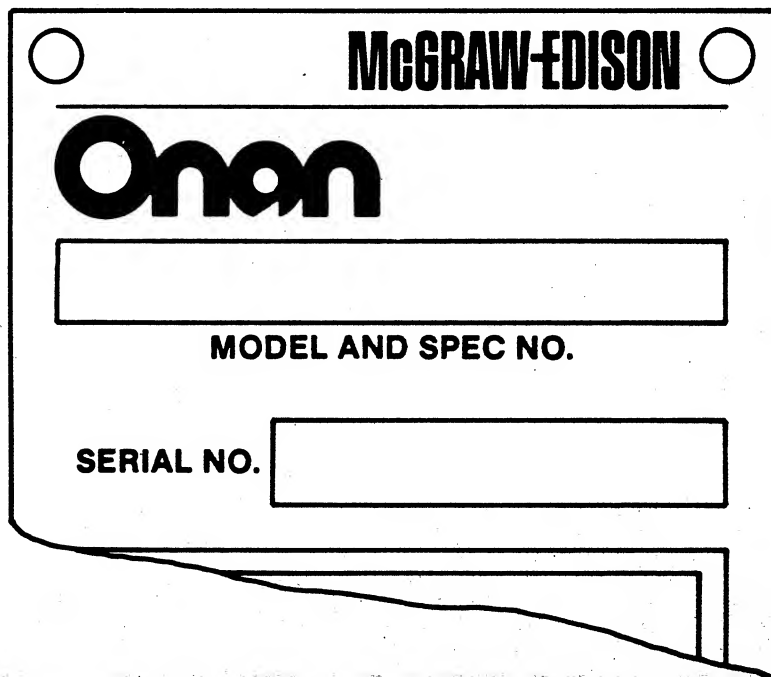
GENERAL INFORMATION

For parts or service, contact the dealer from whom you purchased this equipment or refer to your Nearest Authorized Onan Parts and Service Center.

To avoid errors or delay in filling your parts order, please furnish all information requested.

Always refer to the nameplate on your unit.

1. Always give the MODEL, SPEC NO. and SERIAL NO.



The form is a rectangular label with a black border. At the top, it features the McGraw-Edison logo in a bold, sans-serif font, flanked by two small circles. Below the logo is the Onan logo in a stylized, bold font. Underneath the Onan logo is a large rectangular box for the MODEL AND SPEC NO. Below this box is the label SERIAL NO. followed by a smaller rectangular box for the SERIAL NO. The bottom of the form has a wavy, torn-edge effect. The text M-1149 is printed in the bottom right corner of the form.

For handy reference, insert "YOUR" nameplate information in the spaces above.

2. Do not order by reference number; always use part number and description.
3. Give the part number, description and quantity needed of each item. If an older part cannot be identified, return the part prepaid to your dealer or nearest Onan Parts and Service Center. Print your name and address plainly on the package. Write a letter to the same address stating the reason for returning the part.
4. State definite shipping instructions. Any claim for loss or damage to your unit in transit should be filed promptly against the transportation company making the delivery. Shipments are complete unless the packing list indicates items are back ordered.

Important Safety Precautions

Read and observe these safety precautions when using or working on electric generators, engines and related equipment. Also read and follow the literature provided with the equipment.

Proper operation and maintenance are critical to performance and safety. Electricity, fuel, exhaust, moving parts and batteries present hazards that can cause severe personal injury or death.

FUEL, ENGINE OIL, AND FUMES ARE FLAMMABLE AND TOXIC

Fire, explosion, and personal injury can result from improper practices.

- Used engine oil, and benzene and lead, found in some gasoline, have been identified by government agencies as causing cancer or reproductive toxicity. When checking, draining or adding fuel or oil, do not ingest, breathe the fumes, or contact gasoline or used oil.
- Do not fill tanks with engine running. Do not smoke around the area. Wipe up oil or fuel spills. Do not leave rags in engine compartment or on equipment. Keep this and surrounding area clean.
- Inspect fuel system before each operation and periodically while running.
- Equip fuel supply with a positive fuel shutoff.
- Do not store or transport equipment with fuel in tank.
- Keep an ABC-rated fire extinguisher available near equipment and adjacent areas for use on all types of fires except alcohol.
- Unless provided with equipment or noted otherwise in installation manual, fuel lines must be copper or steel, secured, free of leaks and separated or shielded from electrical wiring.
- Use approved, non-conductive flexible fuel hose for fuel connections. Do not use copper tubing as a flexible connection. It will work-harden and break.

EXHAUST GAS IS DEADLY

- Engine exhaust contains carbon monoxide (CO), an odorless, invisible, poisonous gas. Learn the symptoms of CO poisoning.
- Never sleep in a vessel, vehicle, or room with a genset or engine running unless the area is equipped with an operating CO detector with an audible alarm.
- Each time the engine or genset is started, or at least every day, thoroughly inspect the exhaust system. Shut down the unit and repair leaks immediately.

- Warning: Engine exhaust is known to the State of California to cause cancer, birth defects and other reproductive harm.

Make sure exhaust is properly ventilated.

- Vessel bilge must have an operating power exhaust.
- Vehicle exhaust system must extend beyond vehicle perimeter and not near windows, doors or vents.
- Do not use engine or genset cooling air to heat an area.
- Do not operate engine/genset in enclosed area without ample fresh air ventilation.
- Expel exhaust away from enclosed, sheltered, or occupied areas.
- Make sure exhaust system components are securely fastened and not warped.

MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not remove any guards or covers with the equipment running.
- Keep hands, clothing, hair, and jewelry away from moving parts.
- Before performing any maintenance, disconnect battery (negative [–] cable first) to prevent accidental starting.
- Make sure fasteners and joints are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- If adjustments must be made while equipment is running, use extreme caution around hot manifolds and moving parts, etc. Wear safety glasses and protective clothing.

BATTERY GAS IS EXPLOSIVE

- Wear safety glasses and do not smoke while servicing batteries.
- Always disconnect battery negative (–) lead first and reconnect it last. Make sure you connect battery correctly. A direct short across battery terminals can cause an explosion. Do not smoke while servicing batteries. Hydrogen gas given off during charging is explosive.
- Do not disconnect or connect battery cables if fuel vapors are present. Ventilate the area thoroughly.

DO NOT OPERATE IN FLAMMABLE AND EXPLOSIVE ENVIRONMENTS

Flammable vapor can be ignited by equipment operation or cause a diesel engine to overspeed and become difficult to stop, resulting in possible fire, explosion, severe personal injury and death. **Do not operate diesel equipment where a flammable vapor environment can be created by fuel spill, leak, etc., unless equipped with an automatic safety device to block the air intake and stop the engine.**

HOT COOLANT CAN CAUSE SEVERE PERSONAL INJURY

- Hot coolant is under pressure. Do not loosen the coolant pressure cap while the engine is hot. Let the engine cool before opening the pressure cap.

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not service control panel or engine with unit running. High voltages are present. Work that must be done while unit is running should be done only by qualified service personnel.
- Do not connect the generator set to the public utility or to any other electrical power system. Electrocutation can occur at a remote site where line or equipment repairs are being made. An approved transfer switch must be used if more than one power source is connected.
- Disconnect starting battery (negative [-] cable first) before removing protective shields or touching electrical equipment. Use insulative mats placed on dry wood platforms. Do not wear jewelry, damp clothing or allow skin surface to be damp when handling electrical equipment.
- Use insulated tools. Do not tamper with interlocks.
- Follow all applicable state and local electrical codes. Have all electrical installations performed by a qualified licensed electrician. Tag open switches to avoid accidental closure.
- With transfer switches, keep cabinet closed and locked. Only authorized personnel should have cabinet or operational keys. Due to serious shock hazard from high voltages within cabinet, all service and adjustments must be performed by an electrician or authorized service representative.

If the cabinet must be opened for any reason:

1. Move genset operation switch or Stop/Auto/Handcrank switch (whichever applies) to Stop.
2. Disconnect genset batteries (negative [-] lead first).
3. Remove AC power to automatic transfer switch. If instructions require otherwise, use extreme caution due to shock hazard.

MEDIUM VOLTAGE GENERATOR SETS (601V TO 15kV)

- Medium voltage acts differently than low voltage. Special equipment and training are required to work on or around medium voltage equipment. Operation and maintenance must be done only by persons trained and qualified to work on such devices. Improper use or procedures will result in severe personal injury or death.
- Do not work on energized equipment. Unauthorized personnel must not be permitted near energized equipment. Induced voltage remains even after equipment is disconnected from the power source. Plan maintenance with authorized personnel so equipment can be de-energized and safely grounded.

GENERAL SAFETY PRECAUTIONS

- Do not work on equipment when mentally or physically fatigued or after consuming alcohol or drugs.
- Carefully follow all applicable local, state and federal codes.
- Never step on equipment (as when entering or leaving the engine compartment). It can stress and break unit components, possibly resulting in dangerous operating conditions from leaking fuel, leaking exhaust fumes, etc.
- Keep equipment and area clean. Oil, grease, dirt, or stowed gear can cause fire or damage equipment by restricting airflow.
- Equipment owners and operators are solely responsible for operating equipment safely. Contact your authorized Onan/Cummins dealer or distributor for more information.

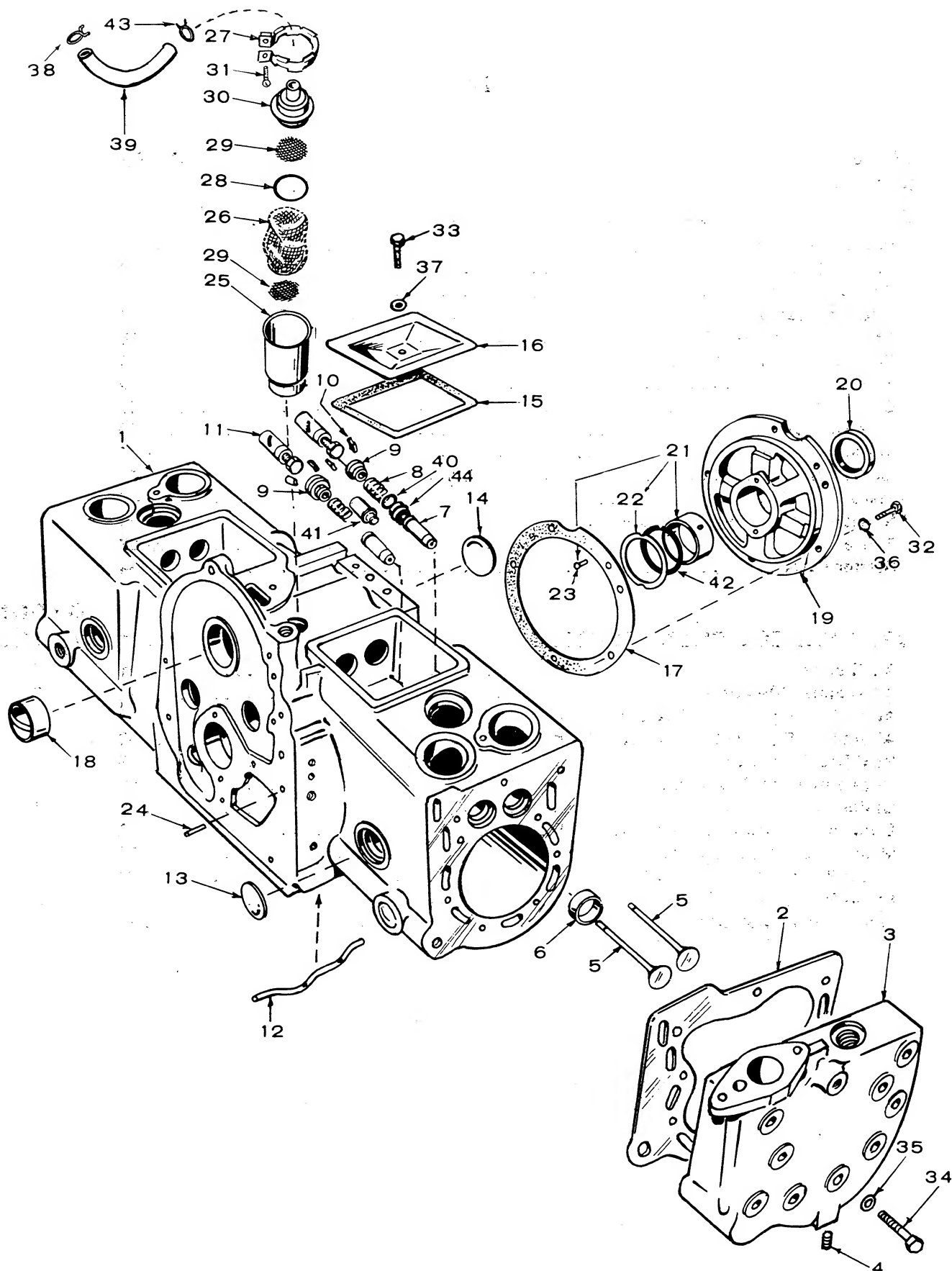
KEEP THIS DOCUMENT NEAR EQUIPMENT FOR EASY REFERENCE.

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CYLINDER BLOCK

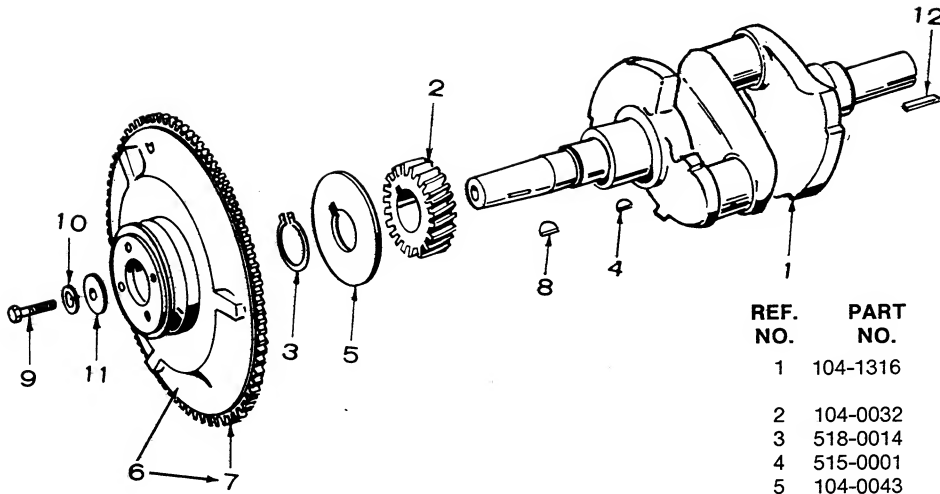


CYLINDER BLOCK

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	110-2415	1	Block Assembly, Cylinder (Includes Parts Marked *)	22	104-0575	2	*Washer, Thrust - Bearing
2	110-2750	2	Gasket, Cylinder Head	23	516-0072	2	*Pin, Dowel - Bearing Stop
3	HEAD, CYLINDER			24	516-0141	2	*Pin, Dowel - Gear Cover Alignment
	110-2347	1	Right Hand	25	123-0953	1	Tube, Breather
	110-2348	1	Left Hand	26	123-0865	1	Filter, Breather Tube
4	502-0153	2	Plug, Pipe (Hex Head) 1/4"	27	123-0951	1	Clamp, Breather Cap
5	VALVES			28	509-0117	1	Gasket, Breather Cap
	110-0880	2	Exhaust	29	123-0958	1	Screen, Breather Cap
	110-0881	2	Intake	30	123-0954	1	Cap, Breather
6	*INSERT, VALVE SEAT - EXHAUST			31	809-0035	1	Screw, Tapping - Round Head - Breather Cap Clamp Mounting (#8 x 3/4")
	110-0872	2	Standard				
	110-0872-02	2	.002" Oversize	32	800-0512	5	*Screw, Cap - Hex Head - Rear Bearing Plate Mounting (5/16-18 x 1")
	110-0872-05	2	.005" Oversize				
	110-0872-10	2	.010" Oversize	33	800-0012	2	Screw, Cap - Hex Head - Valve Cover Mounting (1/4-20 x 2-1/4")
	110-0872-25	2	.085" Oversize				
7	110-0902	4	*Guide, Valve (Used When No Seals on Valves)	34	800-0509	18	Screw, Cap - Hex Head - Cylinder Head Mounting (5/16-18 x 2-1/2")
8	110-0539	4	Spring, Valve				
9	110-0904	4	Rotocap, Valve Spring	35	526-0122	18	Washer, Flat - Cylinder Head Mounting (11/32" ID x 23/32" OD x .134" Thk)
10	110-0639	8	Lock, Valve Stem	36	850-0045	5	*Washer, Lock - Spring - Rear Bearing Plate Mounting (5/16")
11	TAPPET, VALVE			37	526-0063	2	Washer, Flat - Copper - Valve Cover Mounting (17/64" ID x 7/16" OD x 1/32" Thk)
	115-0006	4	Standard				
	115-0006-05	4	.005" Oversize	38	503-0170	1	Clamp, Breather Hose (5/8")
12	120-0386	1	*Tube, Oil	39	503-0546	1	Hose, Breather
13	517-0011	8	*Plug, Expansion (1-1/4")	40	110-3136	2	*Gasket, Intake Valve Guide
14	517-0048	1	*Plug, Expansion (1-5/8")	41	110-1827	4	Guide, Valve (Used When Valves Have Seals)
15	110-0667	2	Gasket, Valve Cover	42	104-0776	1	Shim, Crankshaft Thrust Bearing (.005)
16	110-0666	2	Cover, Valve	43	503-0171	1	Clamp, Hose (11/16")
17	101-0115	1	*Gasket Kit, Rear Bearing Plate	44	509-0090	2	Seal, Oil - Intake Valve (Includes Retainer Rings)
18	BEARING, CAMSHAFT						
	101-0367	2	*Use W/Standard Camshaft				
	101-0405	1	Use W/Hi-Lift Camshaft				
19	101-0316	1	*Plate, Rear Bearing (Less Bearings)				
20	509-0041	1	Seal, Oil - Rear Bearing Plate (NOTE: Also available in Kit #168-0132)				
21	*BEARING, CRANKSHAFT (Includes Thrust Washer)						
	101-0450	2	Standard				
	101-0450-02	2	.002" Undersize				
	101-0450-10	2	.010" Undersize				
	101-0450-20	2	.020" Undersize				
	101-0450-30	2	.030" Undersize				

* - Parts Included in Cylinder Block Assembly.

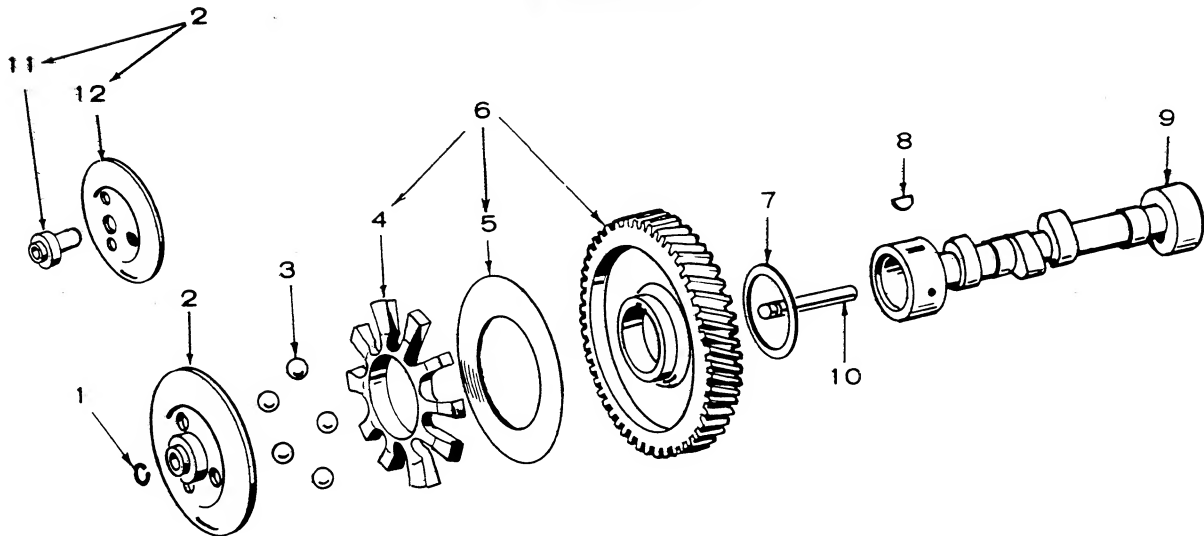
CRANKSHAFT



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	104-1316	1	Crankshaft (Includes Parts Marked*)
2	104-0032	1	Gear, Crankshaft
3	518-0014	1	Ring, Retaining
4	515-0001	1	*Key, Woodruff
5	104-0043	1	Washer, Flat - Keyed (Special)
6	FLYWHEEL (Includes Ring Gear)		
	104-0952	1	With 4" Die-Cast Pulley
	104-0967	1	With 5-3/4" Die-Cast Pulley
7	134-0673	1	Gear, Ring
8	515-0227	1	Key, Flywheel Mounting
9	104-0170	1	Screw, Cap - Hex Head - Flywheel Mounting (Special)
10	850-0055	1	Washer, Lock - Spring - Flywheel Mounting (7/16")
11	526-0017	1	Washer, Flat - Flywheel Mounting (15/32 ID x 1-1/4 OD x 1/4" Thk)
12	515-0202	1	Key, Crankshaft

* - Parts Included in 104-1316 Crankshaft Kit.

CAMSHAFT



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	150-0078	1	Ring, Camshaft Center Pin
2	150-1695	1	Kit, Governor Cup (Includes Parts Marked*)
3	510-0015	5	Ball, Fly - Governor
4	150-1257	1	Spacer, Governor Fly Ball
5	150-0077	1	Plate, Governor Fly Ball
6	105-0332	1	Gear, Camshaft (Includes Flyball Spacer & Plate)

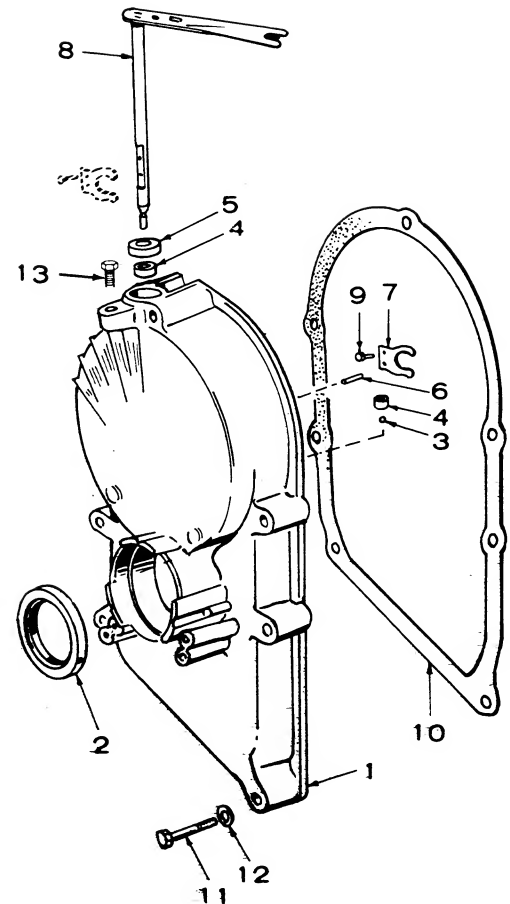
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
7	105-0541	1	Washer, Camshaft Gear Thrust (Special)
8	515-0001	1	Key, Camshaft Gear Mounting
9	105-0238	1	Camshaft (Includes Center Pin)
10	150-0075	1	Pin, Camshaft Center
11	150-1519	1	*Hub, Governor Cup
12	150-1520	1	*Cup, Governor

* - Parts Included in 150-1695 Governor Cup Kit.

GEARCASE

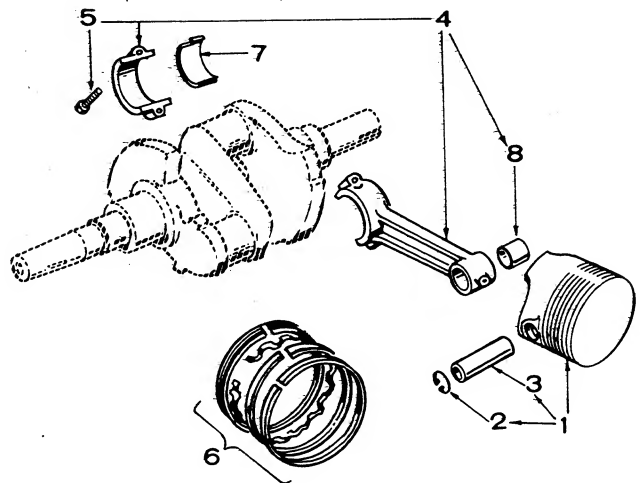
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	103-0524	1	Gearcase Assembly, Complete (Includes Parts Marked *)
2	509-0040	1	*Seal, Oil
3	510-0014	1	*Bearing, Ball
4	510-0013	2	*Bearing, Needle
5	509-0008	1	*Seal, Oil
6	516-0130	1	*Pin, Roll - Governor Stop
7	150-1187	1	*Yoke, Governor
8	150-1541	1	*Arm and Shaft, Governor
9	815-0046	2	*Screw, Machine - Pan Head - Governor Yoke Mounting (#8-32 x 3/8")
10	103-0011	1	Gasket, Gearcase Mounting
11	SCREW, CAP - HEX HEAD - GEARCASE MOUNTING		
	800-0034	1	5/16-18 x 2-1/4"
	800-0032	4	5/16-18 x 1-1/2"
12	850-0045	5	Washer, Lock - Spring - Gearcase Mounting (5/16")
13	815-0261	1	Screw, Cap - Hex Head (1/4-20 x 1/2")

* - Parts Included in Gearcase Assembly.

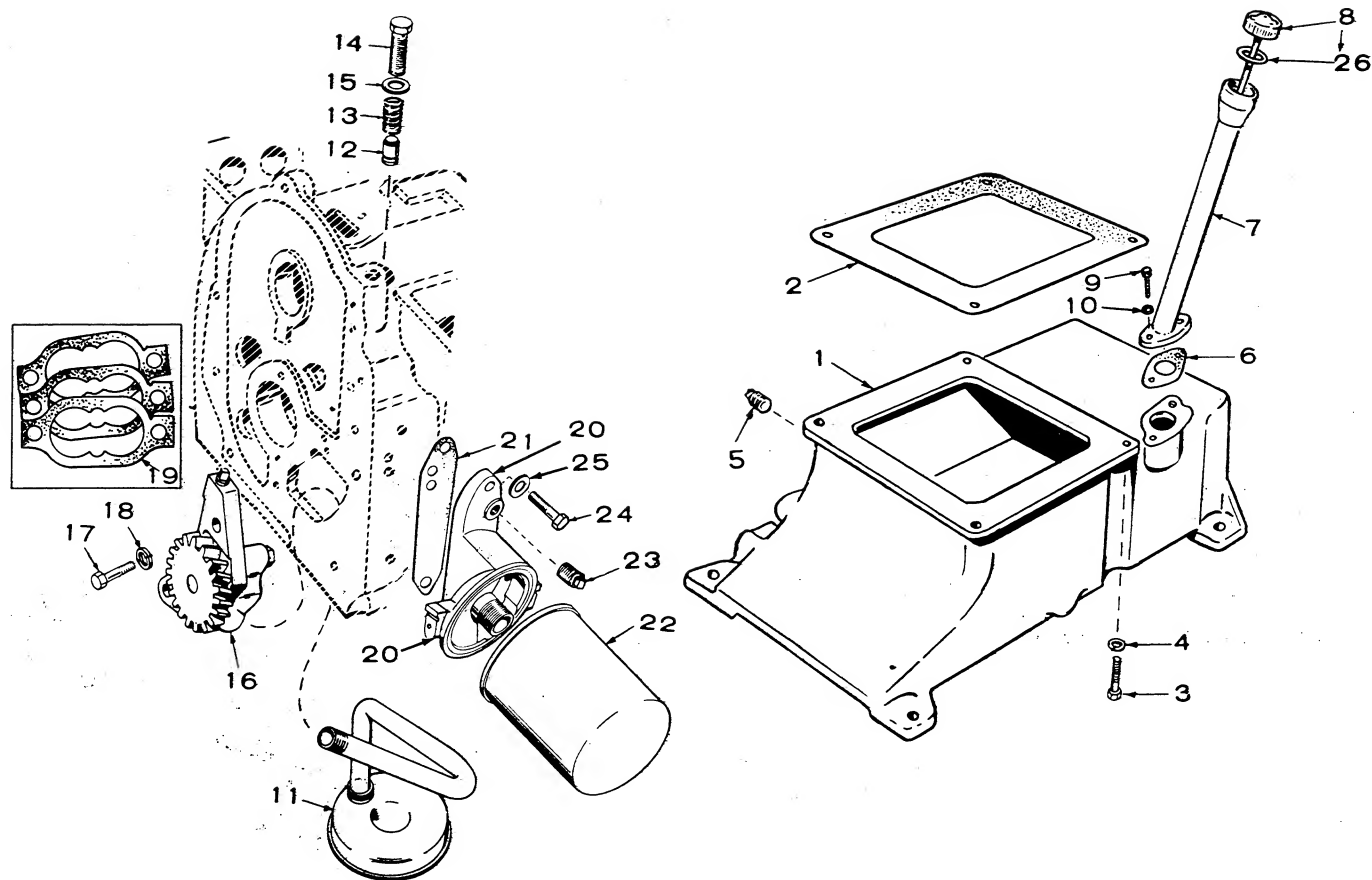


PISTON AND ROD

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	PISTON AND PIN (Includes Retaining Rings)		
	112-0179	2	Standard
	112-0179-05	2	.005" Oversize
	112-0179-10	2	.010" Oversize
	112-0179-20	2	.020" Oversize
	112-0179-30	2	.030" Oversize
	112-0179-40	2	.040" Oversize
2	112-0003	4	Ring, Retaining
3	112-0069	2	Pin, Piston
4	114-0203	2	Rod, Connecting
5	805-0010	4	Bolt, Place - Connecting Rod
6	RING SET, PISTON		
	113-0153	2	Standard
	113-0153-05	2	.005" Oversize
	113-0153-10	2	.010" Oversize
	113-0153-20	2	.020" Oversize
	113-0153-30	2	.030" Oversize
	113-0153-40	2	.040" Oversize
7	BEARING, CONNECTING ROD		
	114-0188	4	Standard
	114-0188-02	4	.002" Undersize
	114-0188-10	4	.010" Undersize
	114-0188-20	4	.020" Undersize
	114-0188-30	4	.030" Undersize
8	114-0036	2	Bushing, Piston Pin (Connecting Rod)



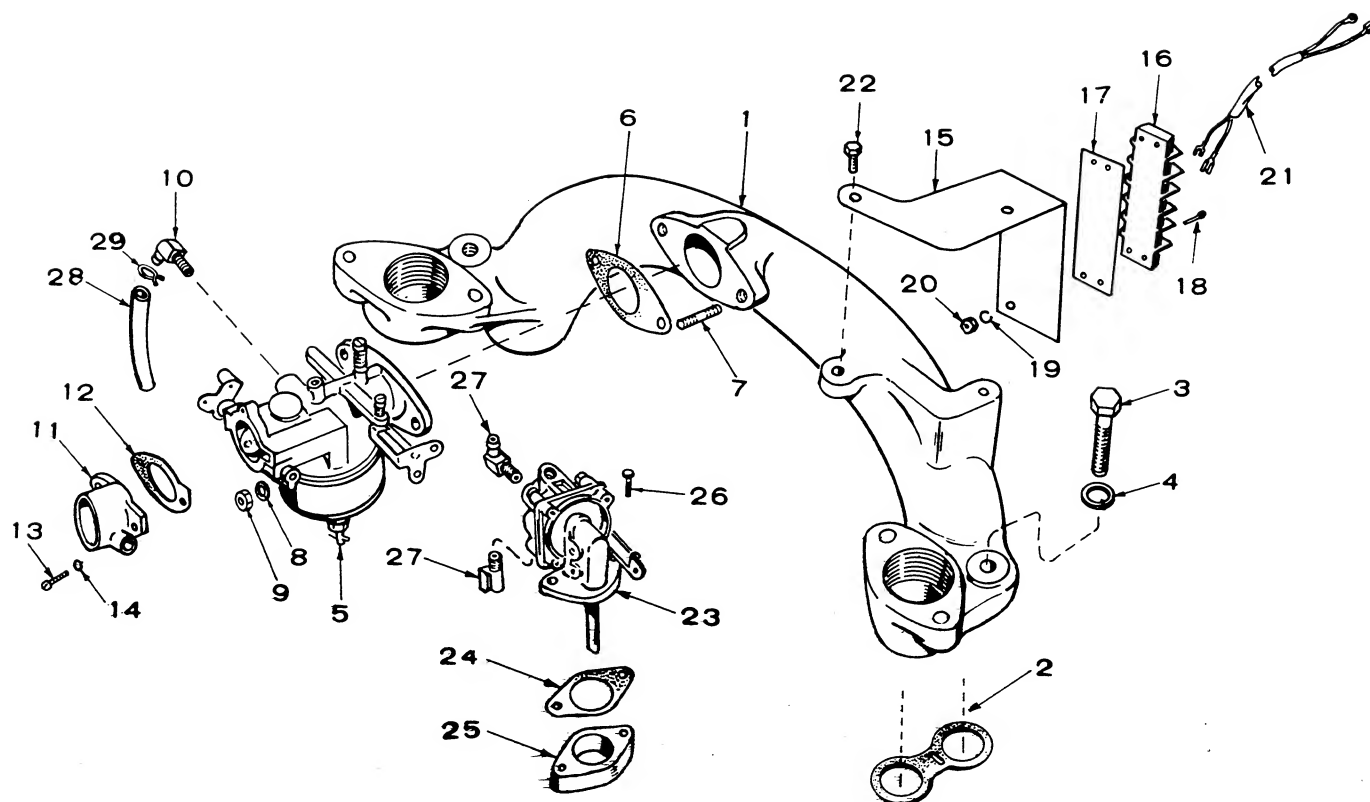
OIL SYSTEM



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	102-0861	1	Base, Oil
2	102-0158	1	Gasket, Oil Base
3	102-0455	4	Screw, Cap - Hex Head - Oil Base Mounting (Special)
4	850-0050	4	Washer, Lock - Spring - Oil Base Mounting (3/8")
5	505-0056	1	Plug, Oil Drain
6	141-0078	1	Gasket, Oil Fill Tube
7	123-0674	1	Tube, Oil Fill
8	123-0694	1	Cap and Indicator - Oil Fill
9	800-0004	2	Screw, Cap - Hex Head - Oil Fill Tube Mounting (1/4-20 x 5/8")
10	850-0040	2	Washer, Lock - Spring - Oil Fill Tube Mounting (1/4")
11	120-0648	1	Cup, Oil Pump Intake (Includes Cup, Screen & Pipe)
12	120-0398	1	Valve, Oil By-Pass
13	120-0140	1	Spring, Oil By-Pass
14	801-0048	1	Screw, Cap - Hex Head - Oil By-Pass (3/8-24 x 3/4")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	526-0066	1	Washer, Flat - Oil By-Pass (25/64" ID x 9/16" OD x 1/16" Thk)
16	120-0491	1	Pump, Oil
17	800-0007	2	Screw, Cap - Hex Head - Oil Pump Mounting (1/4-20 x 1")
18	850-0040	2	Washer, Lock - Spring - Oil Pump Mounting (1/4")
19	120-0161	1	Gasket Kit, Oil Pump
20	122-0320	1	Adapter, Oil Filter
21	122-0321	1	Gasket, Oil Filter Adapter
22	122-0323	1	Filter, Oil - Spin On
23	505-0057	1	Plug, Oil Filter Adapter
24	800-0028	2	Screw, Cap - Hex Head - Oil Filter Adapter Mounting (5/16-18 x 1")
25	526-0065	2	Washer, Flat (Copper) - Oil Filter Adapter Mounting (21/64" ID x 9/16" OD x 1/16" Thk)
26	123-0191	1	Gasket, Oil Fill Cap

FUEL SYSTEM

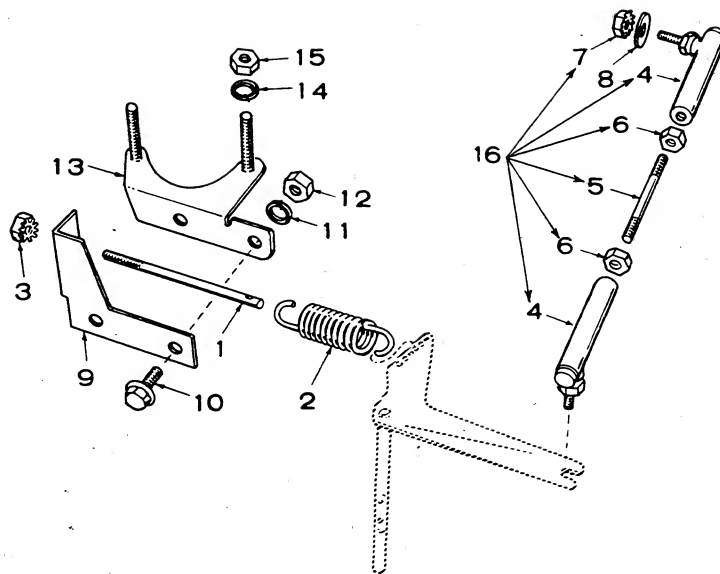


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION	REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	154-1800	1	Manifold, Intake	15	301-3230	1	Bracket, Terminal Block Mounting
2	154-0013	2	Gasket, Intake Manifold	16	332-0604	1	Block, Terminal
3	800-0057	2	Screw, Cap - Hex Head - Intake Manifold Mounting (3/8-16 x 2-3/4")	17	332-1273	1	Strip, Terminal Block Marker
4	850-0050	2	Washer, Lock - Spring - Intake Manifold Mounting (3/8")	18	812-0082	2	Screw, Machine - Round Head - Terminal Block Mounting (#8-32 x 3/4")
5	141-0878	1	Carburetor (Includes Mounting Gasket) (See Separate Group for Components)	19	850-0025	2	Washer, Lock - Spring - Terminal Block Mounting (#8)
6	141-0281	1	Gasket, Carburetor Mounting	20	860-0008	2	Nut, Hex - Terminal Block Mounting (#8-32)
7	520-0526	2	Stud, Carburetor Mounting (5/16-24 x 1-1/4")	21	338-0619	1	Harness, Wiring
8	854-0017	2	Washer, Lock (Internal Shakeproof) - Carburetor Mounting (5/16")	22	821-0005	2	Screw, Cap - Locking Head - Terminal Bracket Mounting (#10-32 x 1/2")
9	868-0002	2	Nut, Hex - Carburetor Mounting (5/16-24")	23	149-1784	1	Pump, Fuel (Includes Mounting Gasket) (See Separate Group for Components)
10	502-0313	1	Elbow, Hose - Fuel Inlet	24	149-0003	2	Gasket, Fuel Pump Mounting
11	140-0867	1	Adapter, Air Cleaner (Front)	25	149-0045	As Req.	Shim, Fuel Pump
12	140-0921	1	Gasket, Air Cleaner Adapter	26	806-0009	2	Screw, Cap - Counter Bore - Fuel Pump Mounting (1/4-20 x 1-1/10")
13	815-0135	2	Screw, Machine - Round Head - Air Cleaner Adapter Mounting (#10-32 x 5/8")	27	502-0313	2	Elbow (1-Inlet - 1-Outlet)
14	850-0030	2	Washer, Lock - Spring - Air Cleaner Adapter Mounting (#10)	28	503-0669	1	Hose, Fuel (1/4" ID x 3-7/16")
				29	503-0301	2	Clamp, Fuel Hose

GOVERNOR

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	150-1418	1	Stud, Governor
2	150-1214	1	Spring, Governor
3	870-0131	1	Nut, Hex - Governor Adjusting Stud (W/ET 10-32")
4	150-0639	2	*Joint, Ball
5	520-0187	1	*Stud, Governor Linkage
6	870-0053	2	*Nut, Hex (10-32")
7	870-0131	1	*Nut, Hex - Ball Joint (W/ET 10-32")
8	526-0196	1	Washer, Flat - Ball Joint to Carburetor (7/32" ID x 7/16" OD x 1/8" Thk)
9	150-1433	1	Bracket, Governor Adjusting - Fixed
10	800-0004	2	Screw, Cap - Hex Head - Governor Adjusting Bracket Mounting (1/4-20 x 5/8")
11	850-0040	2	Washer, Lock - Spring - Governor Adjusting Bracket Mounting (1/4")
12	862-0001	2	Nut, Hex - Governor Adjusting Bracket Mounting (1/4-20)
13	150-1690	1	Bracket, Governor Mounting
14	850-0045	2	Washer, Lock - Spring - Governor Bracket Mounting (5/16")
15	862-0015	2	Nut, Hex - Governor Bracket Mounting (5/16-18)
16	150-1363	1	Linkage Assembly, Governor (Includes Parts Marked *)

* - Parts Included in 150-1363 Linkage Assembly.

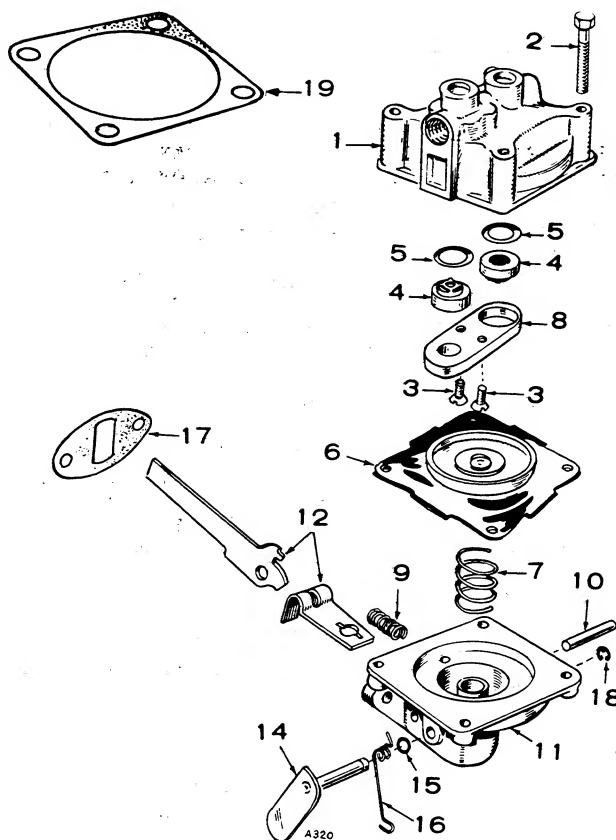


FUEL PUMP PARTS

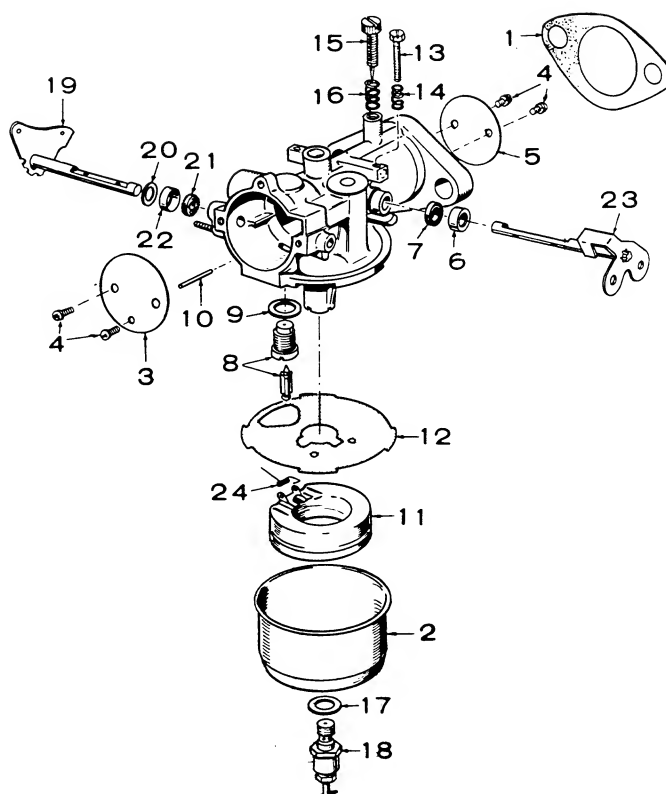
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	149-1784	1	Pump, Fuel
	149-0526	1	Repair Parts Kit, (Includes Parts Marked *)
1		1	Body, Not Sold Separately
2	815-0148	4	Screw, Hex Head - Slotted (8-32 x 7/8")
3	815-0147	2	Screw, Phillips, Valve Retainer (6-32 x 5/8")
4	149-0096	2	*Valve and Cage
5	149-0095	2	*Gasket, Valve
6	149-0582	1	*Diaphragm Assembly
7	149-0672	1	*Spring
8	149-0539	1	Retainer, Valve Cage
9	149-0675	1	*Spring
10	516-0113	1	Pin, Rocker Arm
11		1	Body, Not Sold Separately
12	149-0710	1	Link and Arm, Rocker, (Only as a Set)
14	149-0551	1	Lever, Primer
15	509-0065	2	Seal, "O" Ring
16	149-0404	1	Spring, Primer Lever
17	149-0003	1	*Gasket, Pump Mounting
18	518-0129	1	Ring, Retainer, Primer Lever
19	149-0858	1	†*Gasket, Diaphragm - Lower Side

* - Parts Included in 149-0526 Repair Kit.

† - Used on some models to prevent air lock of fuel pump



CARBURETOR

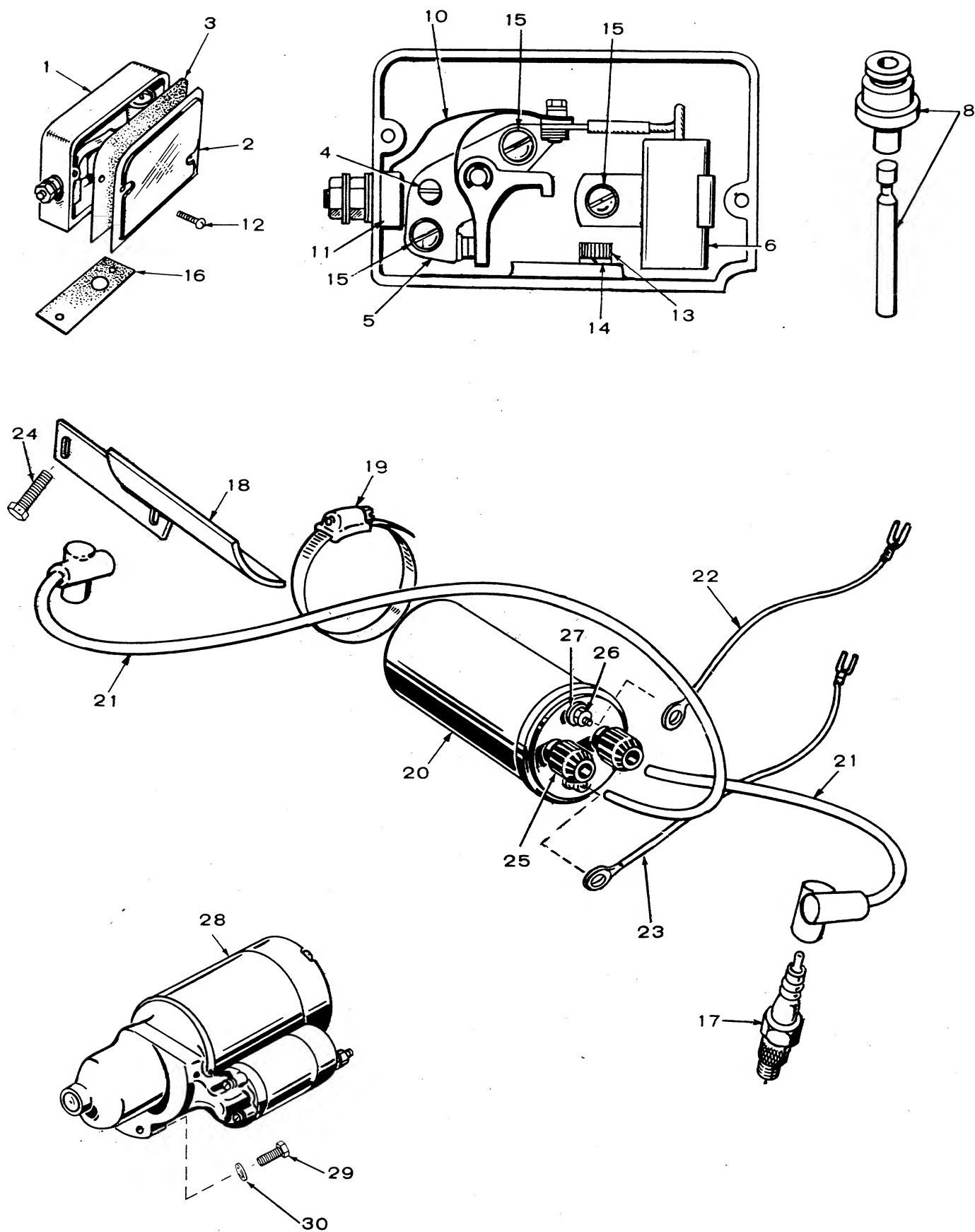


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	141-0879	1	Carburetor (Manual Choke)
	141-0747	1	Kit, Repair (Includes Parts Marked *)
	141-0748	1	Kit, Gasket (Includes Parts Marked £)
1	141-0281	1	£*Gasket, Carburetor Flange
2	141-0708	1	Bowl, Fuel
3	141-0741	1	Plate, Choke
4	141-0698	4	Screw and Washer, Choke and Throttle Plate Mounting (Special)
5	141-0706	1	Plate, Throttle
6	141-0705	1	*Retainer, Seal
7	141-0661	1	£*Seal, Rubber
8	141-0830	1	*Valve Seat Assembly, Fuel
9	141-0811	1	£Washer, Fuel Valve Seat (Special)
10	141-0703	1	*Shaft, Float
11	141-0702	1	Float Assembly
12	141-0701	1	£*Gasket, Bowl to Body
13	141-0700	1	Screw, Throttle Stop (Special)
14	141-0711	1	Spring, Throttle Stop
15	141-0713	1	Needle, Idle Adjusting
16	141-0710	1	Spring, Idle Needle
17	141-0077	1	£*Washer, Main Jet Assembly (Special)
18	141-0712	1	Jet Assembly, Main (Adjustable)
19	141-0742	1	Shaft, Choke
20	141-0699	1	Washer (Special)
21	141-0697	1	£*Seal, Felt
22	141-0203	1	*Retainer, Felt Seal
23	141-0709	1	Shaft and Lever, Throttle
24	141-0799	1	*Spring, Float

* - Parts Included in 141-0747 Repair Kit.

£ - Parts Included in 141-0748 Gasket Kit.

IGNITION SYSTEM



IGNITION SYSTEM

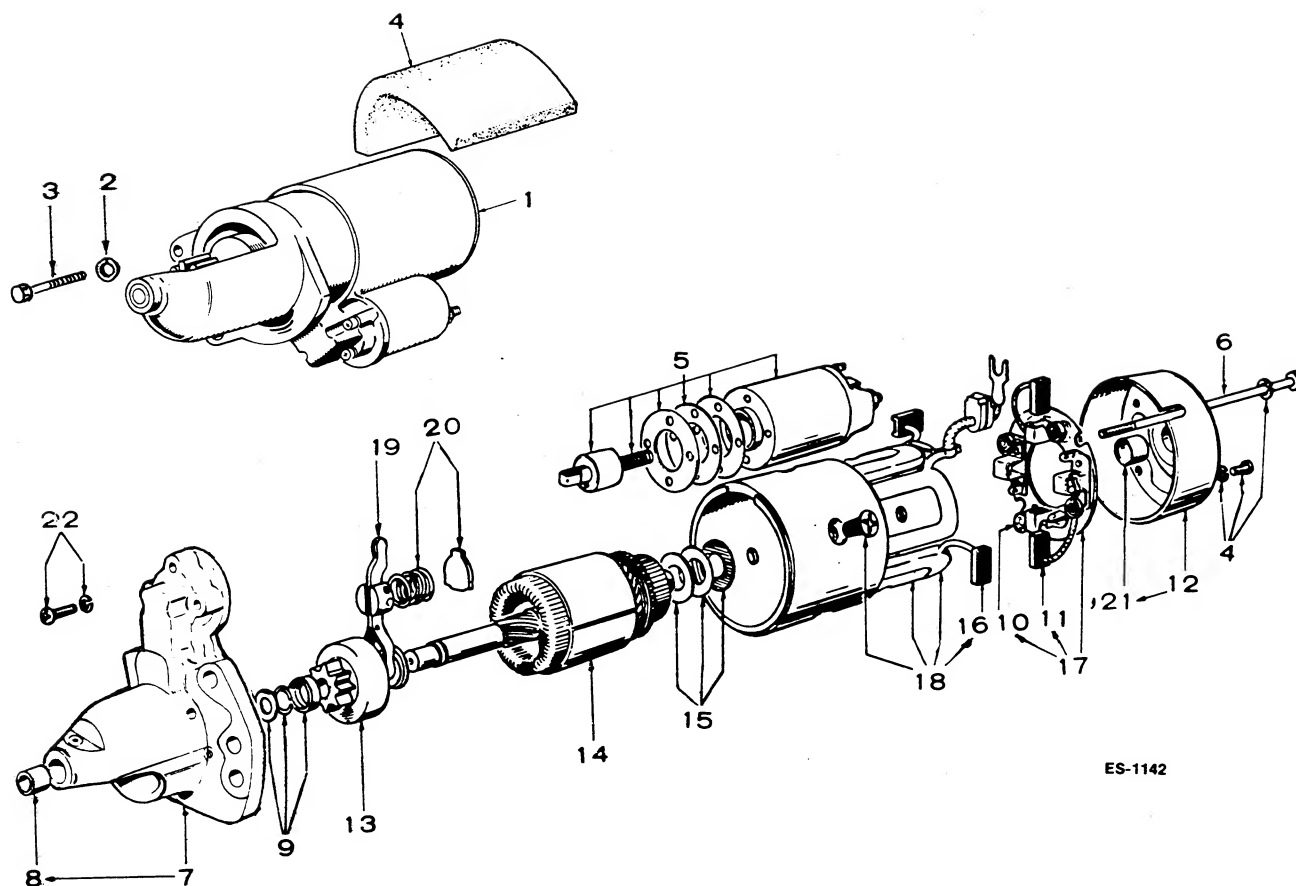
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	160-0257	1	Box, Breaker (Includes Parts Marked *)
2	160-0930	1	*Cover, Breaker Box
3	160-0150	1	*Gasket, Breaker Box Cover
4	160-0075	1	*Cam, Point Gap Adjusting
5	160-0002	1	*Point Set, Breaker
6	312-0069	1	*Condenser, Breaker Points
8	160-0262	1	*Guide & Plunger
10	160-0428	1	*Strap - Point Set to Terminal Block
11	160-0349	1	*Block and Terminal Assembly, Insulator Terminal
12	812-0077	2	*Screw, Machine - Round Head - (8-32 x 3/8")
13	802-0034	3	*Screw, Cap - Socket Head - Breaker Box Mounting (1/4-20 x 3/4")
14	850-0040	2	*Washer, Lock - Spring - Breaker Box Mounting (1/4")
15	518-0049	3	*Screw, Machine - Round Head - Breaker Point Mounting & Condenser Mounting (8-32 x 1/4")
16	160-0043	1	Gasket, Breaker Box Mounting
17	PLUG, SPARK		
	167-0241	2	Non-Resistor Type
	167-0237	2	Resistor Type
18	166-0637	1	Bracket, Ignition Coil Mounting
19	503-0365	2	Clamp, Coil
20	166-0535	1	Coil, Ignition (Includes Parts Marked &)
21	CABLE, SPARK PLUG		
	167-1596	1	Right Hand (15")
	167-1595	1	Left Hand (17")
	LEAD (Kit) (Includes Parts Marked +)		
22	166-0702	1	Coil to Terminal Block
23	166-0702	1	Coil to Breaker Box
24	821-0010	2	Screw, Cap - HWH (1/4-20 x 1/2")
25	166-0604	2	&Nut, Coil - Spark Plug Cable
26	166-0554	2	+&Nut, Hex (Special)
27	850-2005	2	+&Washer - Lock (Special)
28	191-1052	1	Starter (See Separate Illustration for Complete Breakdown and Associated Parts)
29	800-0051	2	Screw, Cap - Hex Head (3/8-16 x 1-1/4")
30	850-0050	2	Washer, Lock - Spring (3/8")

* - Parts Included in 160-0257 Breaker Box Assembly.

& - Parts Included in 166-0535 Ignition Coil.

+ - Parts Included in Replacement Kit 166-0702.

STARTER



ES-1142

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	191-1052	1	Motor, Starter - 12 Volt Solenoid Shift (Includes Parts Marked*)
2	850-0050	2	Washer, Lock - Spring (3/8")
3	800-0050	2	Screw, Cap - Hex Head (3/8-16 x 1")
4	191-1076	1	Seal, Air
5	191-0987	1	*Switch Assembly
6	191-0988	2	*Bolt, Through
7	191-1088	1	*Bracket Assembly, Front (Includes Bearing)
8	191-0971	1	*Bearing, Front Bracket
9	191-0991	1	*Stopper Set, Pinion
10	191-1007	3	†*ΔSpring, Brush
11	191-1008	1	†*ΔBrush, Negative
12	191-1009	1	*Bracket Assembly, Rear (Includes Bearing)

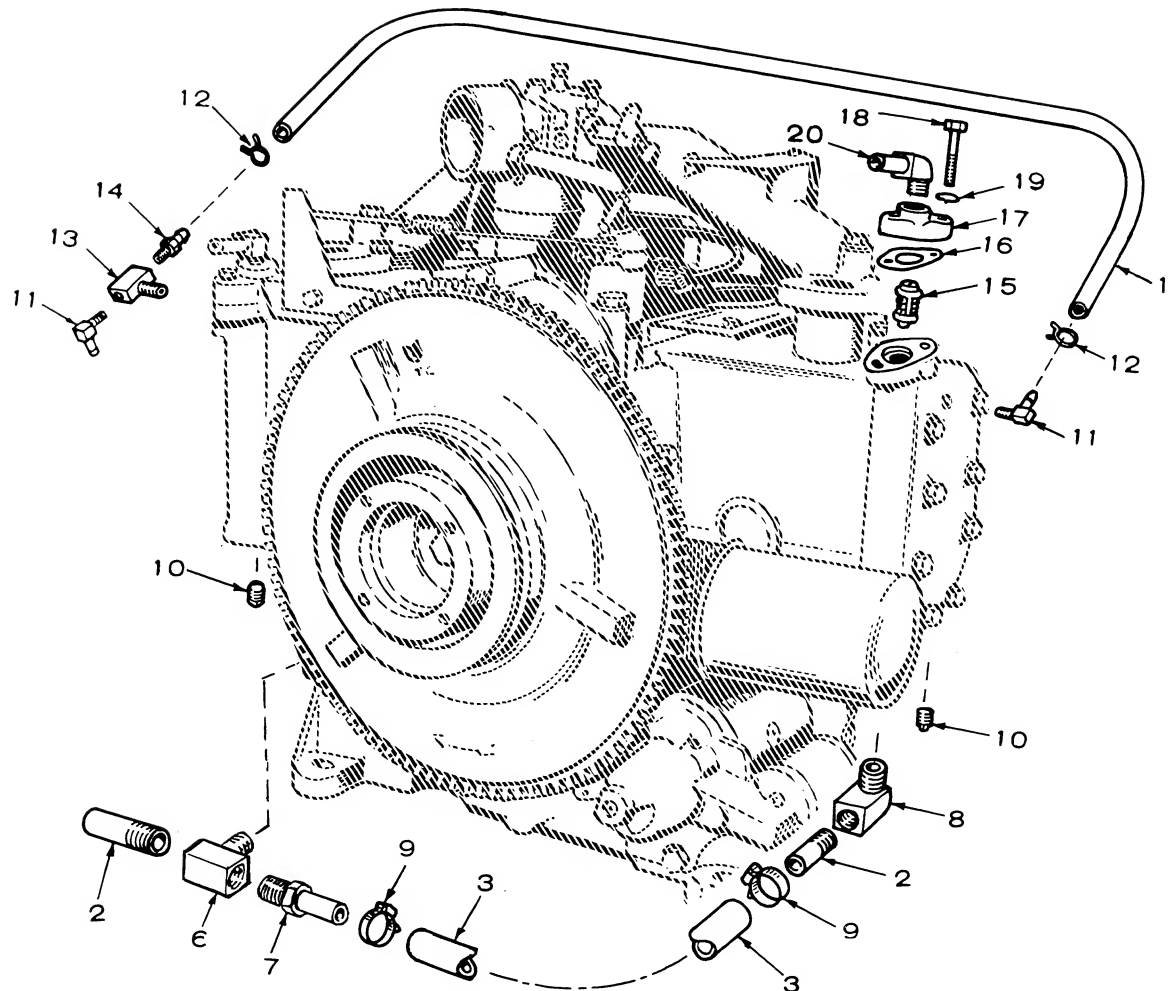
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	191-1087	1	*Clutch Assembly
14	191-1088	1	*Armature
15	191-0997	1	*Washer Set
16	191-1005	2	*Brush, Positive
17	191-1006	1	†*Holder Assembly, Brush (Includes Parts Marked Δ)
18	191-1089	1	*Yoke Assembly (Includes Frame, Pole Shoes, Field Coil and Positive Brushes)
19	191-0963	1	*Lever Assembly
20	191-0984	1	*Spring Set
21	191-1010	1	*Bearing, Rear Bracket Assembly
22	191-1011	1	*Screw Set

* - Parts Included in 191-1052 Starter Motor.

Δ - Parts Included in 191-1006 Brush Holder Assembly.

† - Early brush holder was equipped with two (2) negative brushes and four (4) brush springs. Completely interchangeable with current brush holder. When replacing negative brushes on early models only one (1) required, however two (2) may be used.

COOLING SYSTEM



REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	503-0757	1	Hose, By-Pass (1/4" ID x 25-1/2")
2	505-0135	1	Nipple, Half (3/8")
3	503-0697	1	Hose, Inlet (Crossover) (1/2" ID x 12")
6	502-0446	1	Tee (1/2")
7	502-0238	1	Connector, Hose
8	502-0237	1	Elbow, Hose Connector (Brass)
9	503-0547	2	Clamp, Hose
10	502-0153	2	Plug, Hex Head
11	502-0313	2	Elbow, Hose (Right Hand Cylinder Head)
12	518-0349	2	Clamp, Cylinder Head By Pass Hose

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
13	502-0057	1	Tee, Male Branch Type (Left Hand Cylinder Head)
14	502-0395	1	Connector, Hose (Left Hand Cylinder Head)
15	309-0289	2	Thermostat
16	309-0186	2	Gasket, Thermostat Housing Mounting
17	309-0185	2	Housing, Thermostat
18	800-0007	4	Screw, Cap - Hex Head (1/4-20 x 1")
19	850-0040	4	Washer, Lock - Spring - Thermostat Housing Mounting (1/4")
20	502-0237	2	Elbow, Hose Connector (Brass)

SERVICE KITS AND MISCELLANEOUS

PART NO.	QTY. USED	PART DESCRIPTION
98-1807	1	Decal Kit, Set
160-0836	1	Ignition Tune Up Kit
168-0132	1	Gasket Kit, Complete Engine
522-0284	1	Engine Overhaul Kit
525-0305	1	Paint, Touch Up (Pressurized 13 oz. Can) Non-Metallic Green

NOTE: For other Kits, refer to the group
for the Part in Question.

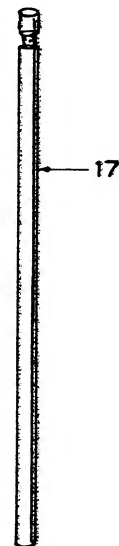
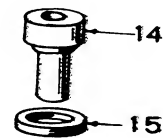
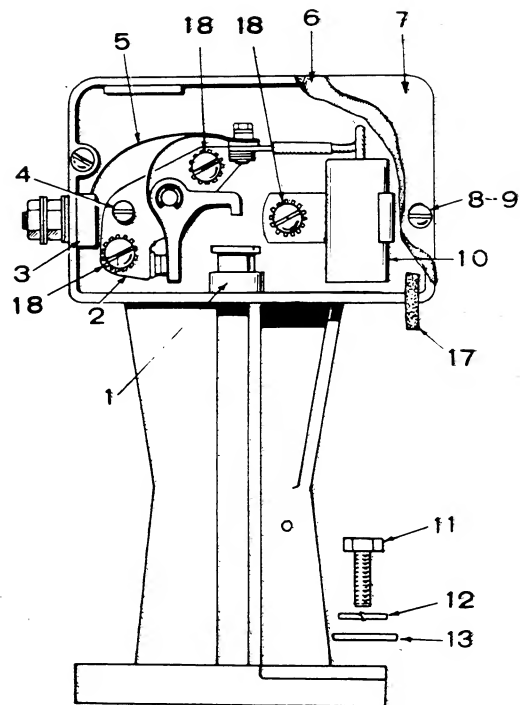
OPTIONAL EQUIPMENT SECTION

This section contains illustrated parts listing of factory installed options for these industrial engines. Options may not be applicable to all models; for field conversions additional parts are usually required. Optional parts listed in this section are in addition or in place of those shown in the standard engine parts section.

OPTION 1 **BREAKER BOX (HIGH PROFILE)**

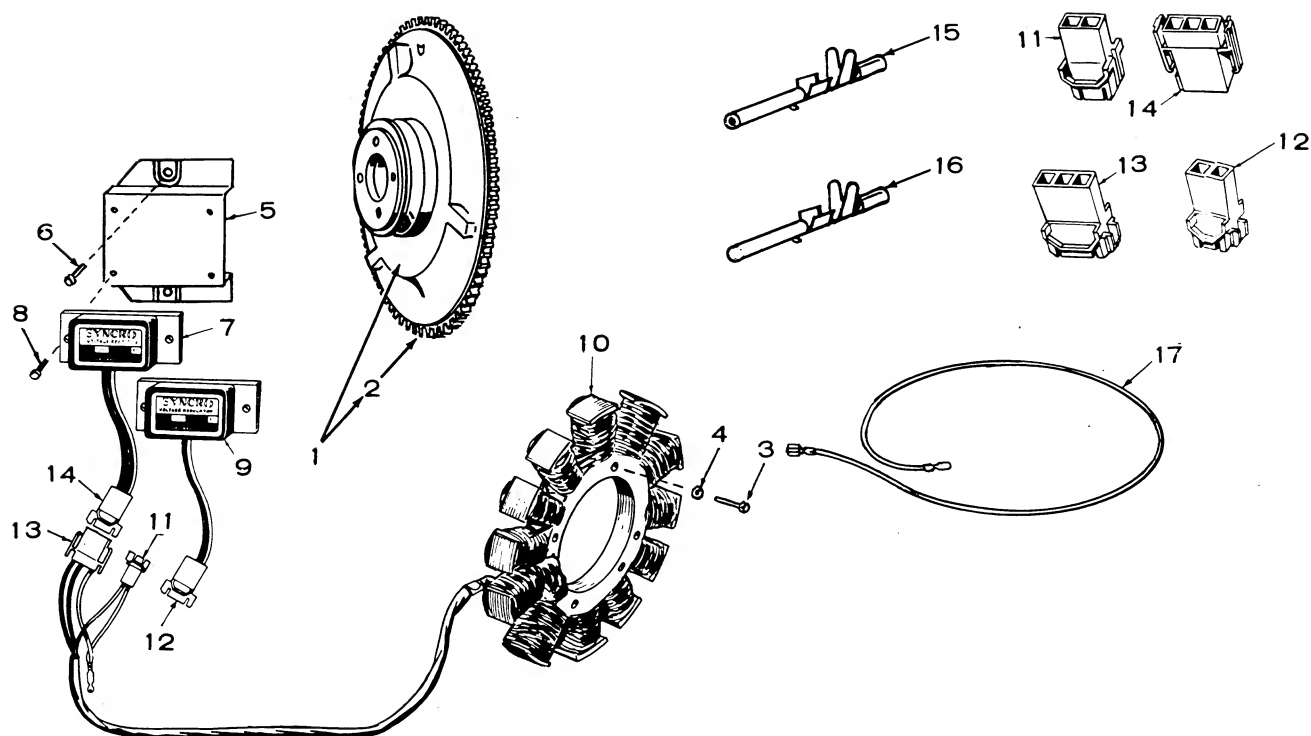
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	160-1135	1	Box Assembly (Includes Mounting Gasket) (Includes Parts Marked *)
1	160-0931	1	*Guide, Plunger
2	160-0002	1	*Point Set
3	160-0349	1	*Terminal and Block Assembly
4	160-0075	1	*Cam, Point Adjusting
5	160-0428	1	*Strap, Point Set to Terminal
6	160-0150	1	*Gasket, Cover
7	160-0930	1	*Cover, Breaker Box
8	850-0025	2	*Washer, Lock - Spring (#8)
9	812-0077	2	*Screw, Machine - Round Head (#8-32 x 3/8")
10	312-0069	1	*Condenser (.3 Mfd)
11	802-0035	2	*Screw, Socket Head (1/4-20 x 7/8")
12	850-0040	2	*Washer, Lock - Spring (1/4")
13	526-0214	2	*Washer, Flat (17/64" ID x 1/2" OD x 1/16" Thk)
14	160-1041	1	*Bushing, Guide
15	160-1040	1	*Gasket, Mounting
16	160-0723	1	*Plunger, Breaker
17	160-0261	1	*Wick
18	815-0285	3	*Screw, Machine - Round Head W/ET Washer (#8-32 x 5/16")

* - Parts Included in 160-1135 Breaker Box Assembly.



OPTION 2

FLYWHEEL ALTERNATOR - 20 AMPERE (SYNCRO)

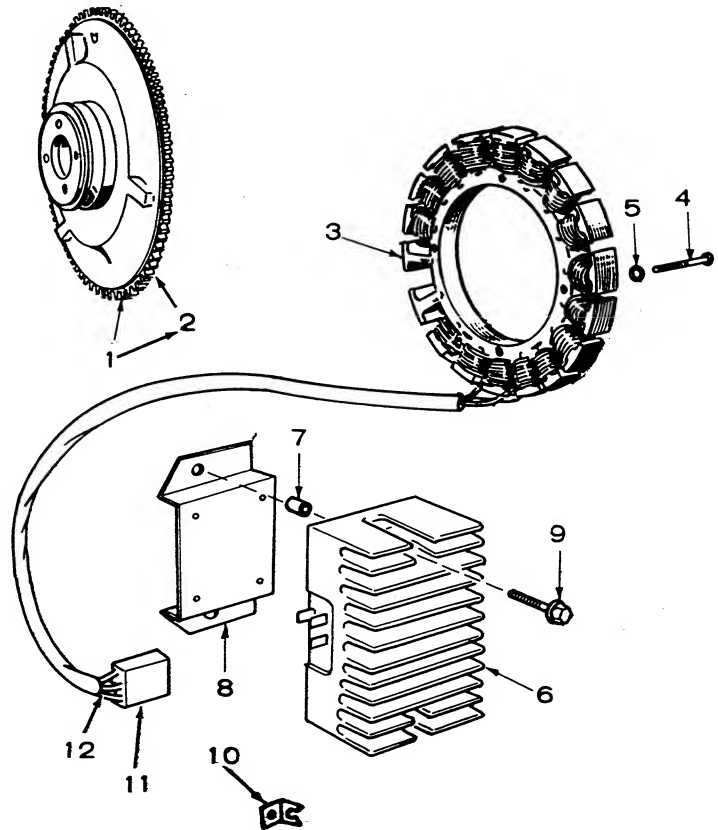


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	104-0955	1	Flywheel (Includes Ring Gear)
2	134-0673	1	Gear, Ring
3	813-0108	3	Screw, Machine - Round Head - Stator Mounting (#10-32 x 1-1/2")
4	850-0030	3	Washer, Lock - Spring - Stator Mounting (#10)
5	191-1107	1	Bracket, Regulator/Rectifier Mounting
6	821-0010	2	Screw, Cap - Hex Head Self Locking - Regulator/Rectifier (1/4-20 x 1/2")
7	191-0938	1	Rectifier, Current
8	815-0181	4	Screw, Self Tapping - Hex Head Self Locking Rectifier Mounting (#10-32 x 5/16")
9	191-0939	1	Regulator, Voltage
10	191-0937	1	Stator, Alternator (12 Volt)
11	323-0879	1	Cap, Connector (2 Male Contacts)
12	323-0880	1	Plug, Connector (2 Female Contacts)
13	323-0881	1	Cap, Connector (3 Male Contacts)
14	323-0882	1	Plug, Connector (3 Female Contacts)
15	323-0488	5	Contact, Connecting (Female)
16	323-0496	5	Contact, Connecting (Male)
17	336-2222	1	Lead

OPTION 3 FLYWHEEL ALTERNATOR - 15 AMPERE (PHELOX)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	104-0953	1	Flywheel (Includes Ring Gear)
2	134-0673	1	Gear, Ring
3	191-1256	1	Stator, Alternator 12 Volt (Includes Parts Marked *)
4	813-0143	3	Screw, Machine - Round Head (#10-32 x 1-3/8")
5	850-0030	3	Washer, Lock - Spring (#10)
6	191-0886	1	Regulator, Voltage (12 Volt)
7	134-2100	2	Spacer, Regulator Mounting
8	191-1107	1	Bracket, Regulator Mounting
9	821-0012	2	Screw, Cap - HWH (1/4-20 x 1-1/8")
10	167-0188	2	Clip, Cable
11	323-0853	1	*Body, Connector
12	332-2073	2	*Terminal, Stator Lead

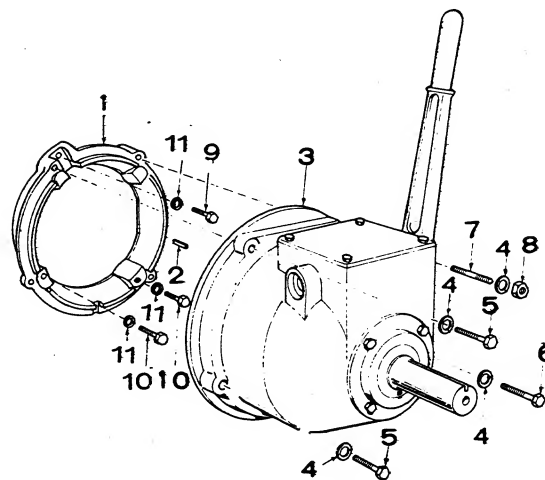
* Parts Included in Stator.



OPTION 4 CLUTCH

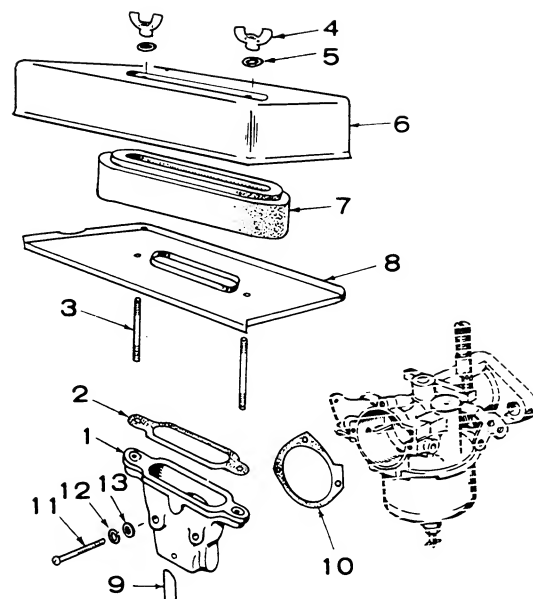
REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	190-0178	1	Kit, Clutch - Complete
1	190-0171	1	Adapter, Clutch to Engine
2	515-0041	1	Key, Clutch
3	190-0174	1	*Clutch Assembly
4	850-0055	3	Washer, Lock - Spring (7/16")
5	800-0074	1	Screw, Cap - Hex Head (7/16-14 x 1-3/4")
6	800-0075	2	Screw, Cap - Hex Head (7/16-14 x 2")
7	520-0126	1	Stud (3/8 x 3-7/8")
8	104-0091	1	Nut, Hex (Special)
9	800-0053	1	Screw, Cap - Hex Head (3/8-16 x 1-3/4")
10	800-0054	2	Screw, Cap - Hex Head (3/8-16 x 2")
11	850-0050	4	Washer, Lock - Spring (3/8")

* - For Components, contact your nearest Rockford Clutch dealer, Borg Warner Corporation
Rockford, Illinois 61100



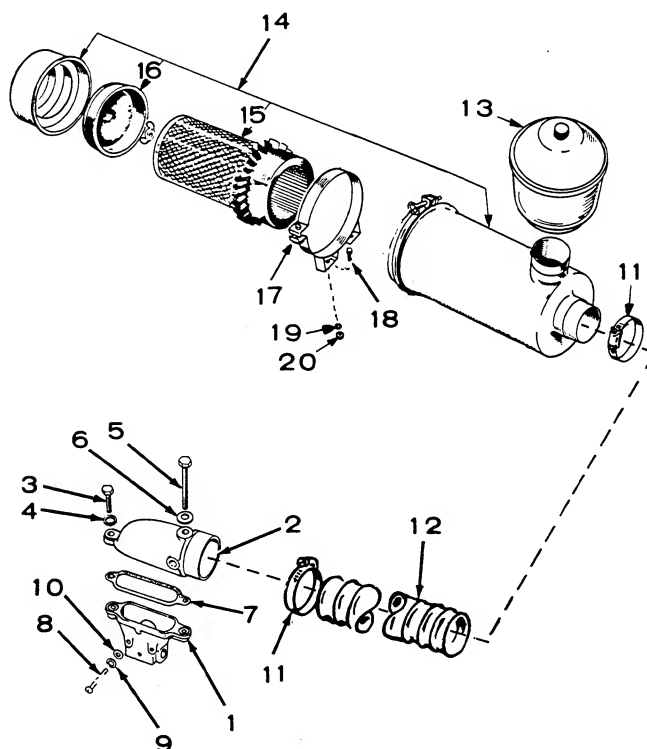
OPTION 5 AIR CLEANER

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	140-1304	1	Adapter, Air Cleaner
2	140-0584	1	Gasket, Air Cleaner
3	520-0621	2	Stud, Air Cleaner
4	865-0020	2	Nut - Wing (1/4-20)
5	526-0063	2	Washer, Flat - Copper (17/64" ID x 7/16" OD x 1/32" Thk)
6	140-0594	1	Cover, Air Cleaner
7	140-0636	1	Element, Air Cleaner
8	140-0595	1	Pan, Air Cleaner
9	123-0732	1	Tube, Adapter to Breather Hose
10	140-1087	1	Gasket - Adapter to Carburetor
11	813-0108	2	Screw, Machine - Round Head (10-32 x 1/2")
12	850-0030	2	Washer, Lock - Spring (#10)
13	526-0241	2	Washer, Flat (.188 ID x .438 OD x .049" Thk)



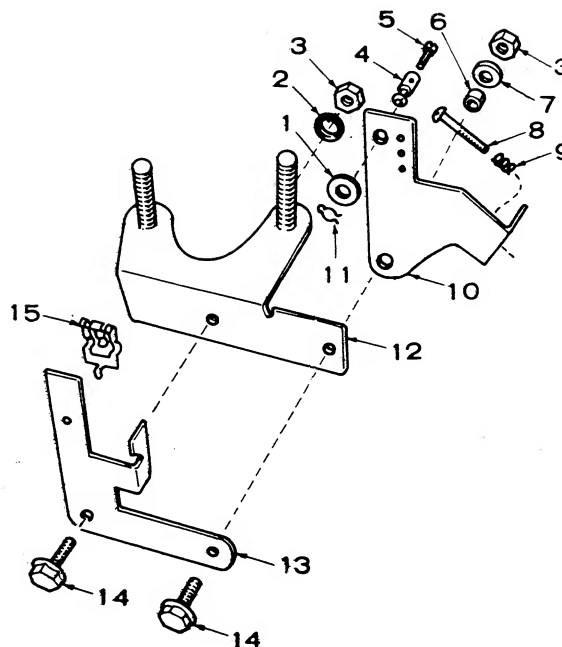
OPTION 6 REMOTE AIR CLEANER

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	140-1304	1	Adapter, Air Cleaner
2	140-0645	1	Adapter, Air Cleaner
3	800-0007	1	Screw, Cap - Hex Head (1/4-20 x 1")
4	850-0040	1	Washer, Lock - Spring (1/4")
5	800-0015	1	Screw, Cap - Hex Head (1/4-20 x 3")
6	526-0108	1	Washer, Flat (17/64" ID x 7/16" OD x 1/32" Thk)
7	140-0584	1	Gasket, Air Cleaner Adapter
8	813-0108	2	Screw, Machine - Round Head (#10-32 x 1-1/2")
9	850-0030	2	Washer, Lock - Spring (#10)
10	526-0241	2	Washer, Flat (.188 ID x .438 OD x .049" Thk)
11	503-0274	2	Clamp, Hose
12	503-0444	1	Hose, Air Cleaner (2" ID x 30")
13	140-0723	1	Pre-cleaner, Air Cleaner
14	140-0721	1	Cleaner, Air (Includes Element)
15	140-0765	1	Element, Only, Air Cleaner
16	140-1267	1	Baffle, Air Cleaner
17	140-0722	2	Band, Air Cleaner Mounting
18	800-0024	4	Screw, Cap - Hex Head (5/16-18 x 1/2")
19	850-0045	4	Washer, Lock - Spring (5/16")
20	862-0015	4	Nut, Hex (5/16-18)



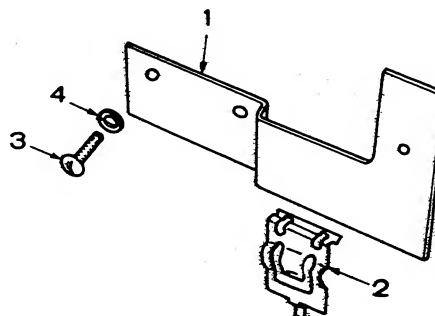
OPTION 7 GOVERNOR CONTROL - VARIABLE SPEED (SIDE PULL)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	526-0006	1	Washer, Flat (15/64" ID x 1/2" OD x 3/64")
2	850-0040	1	Washer, Lock - Spring (1/4")
3	862-0001	2	Nut, Hex (1/4-20)
4	152-0155	1	Swivel, Choke Lever
5	815-0104	1	Screw, Machine - Fillister Head (#8-32 x 5/16")
6	150-1269	1	Bushing, Governor Control
7	526-0214	1	Washer, Flat (17/64" ID x 1/2" OD x 1/16" Thk)
8	812-0068	1	Screw, Machine - Round Head (#6-32 x 1")
9	150-1398	1	Spring, Governor Idle
10	150-1435	1	Arm, Governor Control
11	516-0059	1	Pin, Cotter
12	150-1690	1	Bracket, Governor Mounting
13	150-1343	1	Bracket, Governor Mounting
14	800-0004	2	Screw, Cap - HWH (1/4-20 x 5/8")
15	518-0176	1	Clip, Cable

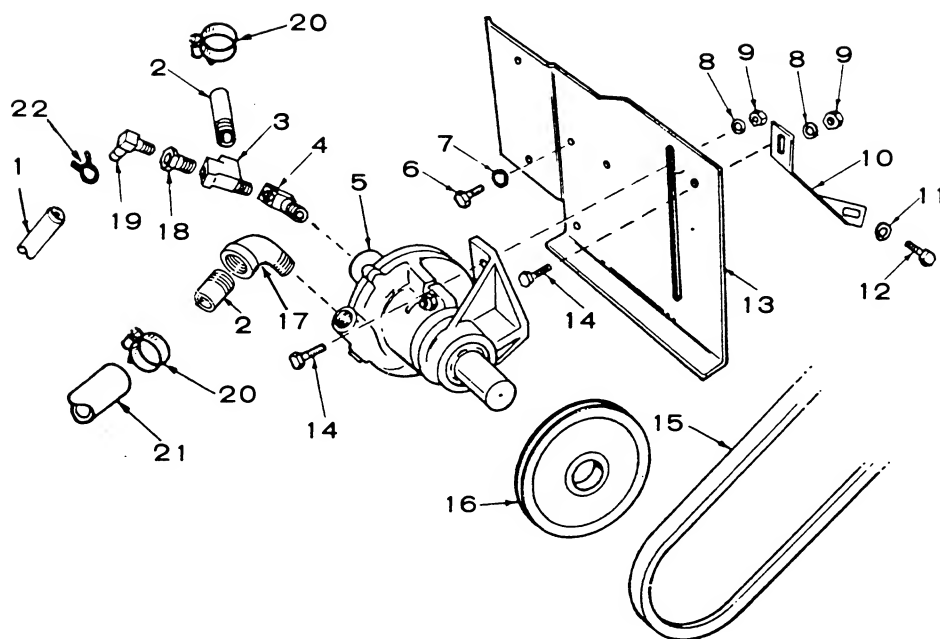


OPTION 8 FRONT PULL CHOKE ADAPTER

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	153-0464	1	Bracket, Choke Cable
2	518-0176	1	Clip, Cable
3	813-0097	2	Screw, Machine - Round Head (#10-32 x 5/16")
4	850-0030	2	Washer, Lock - Spring (#10)



OPTION 9 MOUNTED WATER PUMP

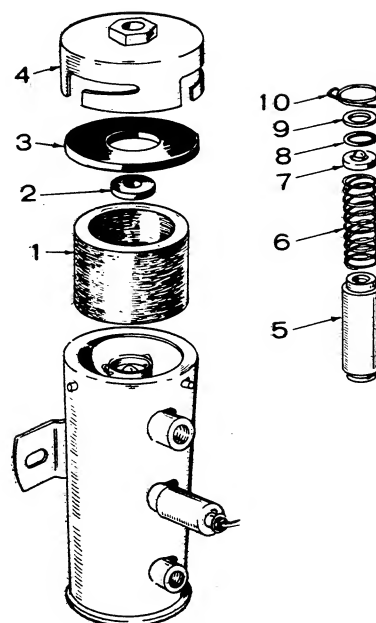


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	503-0737	1	Hose, Rubber (1/4" ID x 8")
2	505-0135	2	Nipple, Half (3/8)
3	502-0401	1	Tee, Pipe (3/8)
4	502-0075	1	Elbow, Pipe (90°)
5	132-0110	1	Pump, Water (See Separate Illustration for Component Parts)
6	800-0026	3	Screw, Cap - Hex Head (5/16-18 x 3/4")
7	850-0045	3	Washer, Lock - Spring (5/16")
8	850-0040	3	Washer, Lock - Spring (1/4")
9	862-0001	3	Nut, Hex (1/4-20)
10	130-1131	1	Support, Water Pump
11	526-0021	1	Washer, Flat (17/64" ID x 3/4" OD x 1/16" Thk)
12	821-0018	1	Screw, Cap - HWH (5/16-18 x 1")
13	130-1113	1	Bracket, Water Pump Mounting
14	800-0006	3	Screw, Cap - Hex Head (1/4-20 x 7/8")

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
15	BELT, WATER PUMP DRIVE		
	511-0102	1	Use W/512-0061 Water Pump Pulley
	511-0051	1	Use W/512-0067 Water Pump Pulley
16	PULLEY, WATER PUMP		
	512-0061	1	(4" Dia.) Use W/104-0952 Flywheel
	512-0067	1	(5" Dia.) Use W/104-0967 Flywheel
17	502-0532	1	Elbow, Street (3/8 x 45°)
18	502-0049	1	Bushing, Pipe
19	502-0313	1	Elbow, Hose (1/4" Hose, 1/8" NPT)
20	503-0183	2	Clamp, Hose Outlet
21	503-0777	1	Hose, Rubber (5/8" ID x 4-5/8")
22	518-0349	2	Clamp, By-Pass Hose

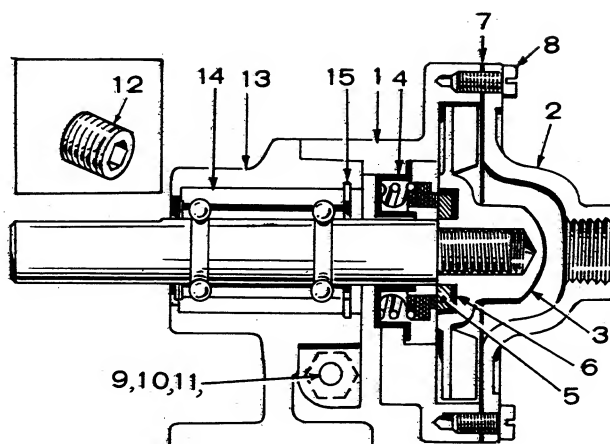
OPTION 10 FUEL PUMP PARTS (ELECTRIC)

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	149-0650	1	Pump, Fuel
1	149-1445	1	Filter
2	149-1447	1	Magnet
3	149-1446	1	Gasket, Cover
4	149-1453	1	Cover
5	149-1452	1	Plunger
6	149-0767	1	Spring, Plunger Return
7	149-1451	1	Spring Cup & Valve
8	149-1450	1	Gasket, Spring Cup
9	149-1449	1	Washer, Cup Gasket (Special)
10	149-1448	1	Retainer, Cup & Plunger



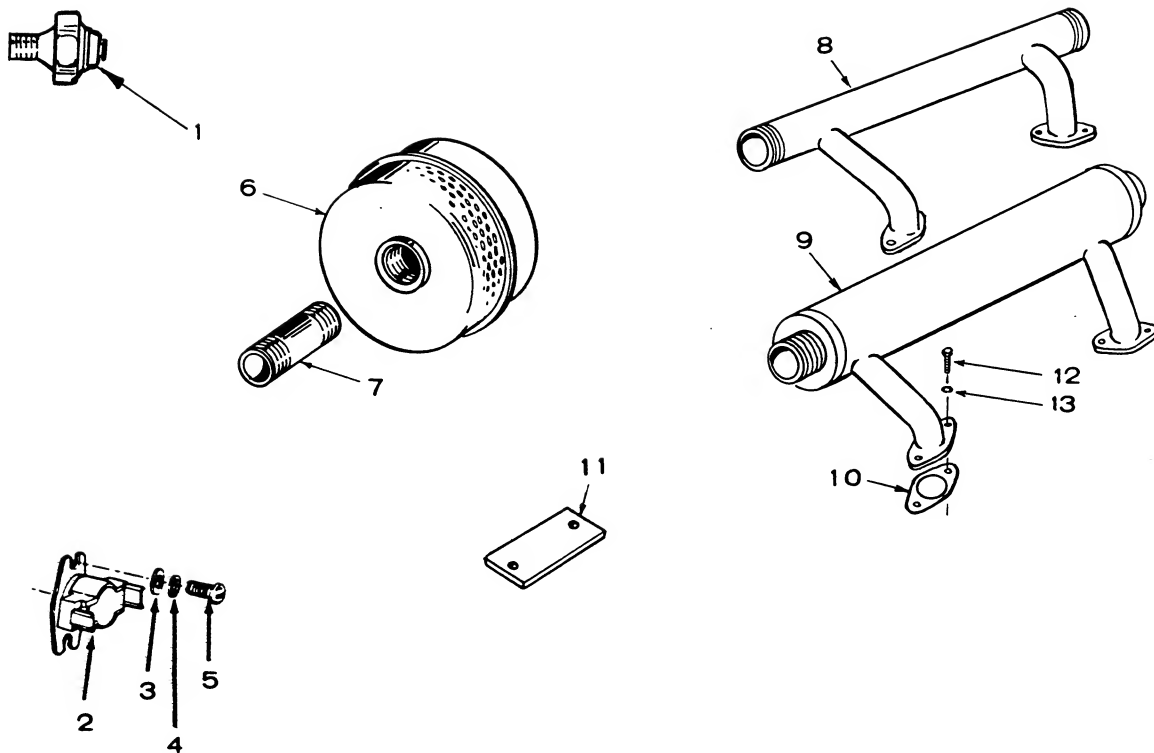
OPTION 11 WATER PUMP

REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
	132-0110	1	Pump, Water - Complete
	132-0111	1	Repair Kit (Includes Parts Marked *)
1		1	Body, Pump (Not Sold Separately)
2	132-0137	1	Cover, Pump
3	132-0114	1	*Impeller
4	132-0101	1	*Seal
5	132-0091	1	*Face, Wear
6	132-0092	1	*Seat, Seal
7	132-0112	1	*Gasket, Cover
8	132-0113	6	*Screw, Cover (Special)
9	132-0138	1	Screw, Cap (Special)
10	132-0139	1	Lockwasher (Special)
11	132-0140	1	Nut, Hex (Special)
12	132-0141	1	Plug, Drain
13	132-0142	1	Pedestal
14	132-0089	1	*Shaft and Bearing Assembly
15	132-0132	1	Ring, Snap



* - Parts included in the 132-0111 Repair Kit.

MISCELLANEOUS OPTIONS

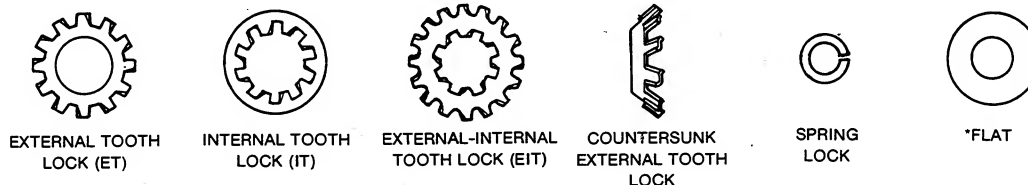


REF. NO.	PART NO.	QTY. USED	PART DESCRIPTION
1	309-0237	1	Switch, Low Oil Pressure
2	309-0259	1	Switch, High Temperature - Water
3	526-0016	2	Washer, Flat (17/64" ID x 9/16" OD x 1/32" Thk)
4	854-0014	2	Washer, Lock - IT (1/4")
5	812-0145	2	Screw, Machine - Round Head (1/4-20 x 5/16")
6	155-0916	2	Muffler, Exhaust
7	505-0086	2	Nipple, Exhaust
8	154-0998	1	Manifold, Exhaust
9	155-0906	1	Muffler, Exhaust
10	154-0973	1	Gasket, Exhaust Manifold
11	149-0136	1	Cover, Fuel Pump Hole
12	800-0028	4	Screw, Cap - Hex Head (5/16-18 x 1")
13	850-0045	4	Washer, Lock (5/16")

HARDWARE IDENTIFICATION

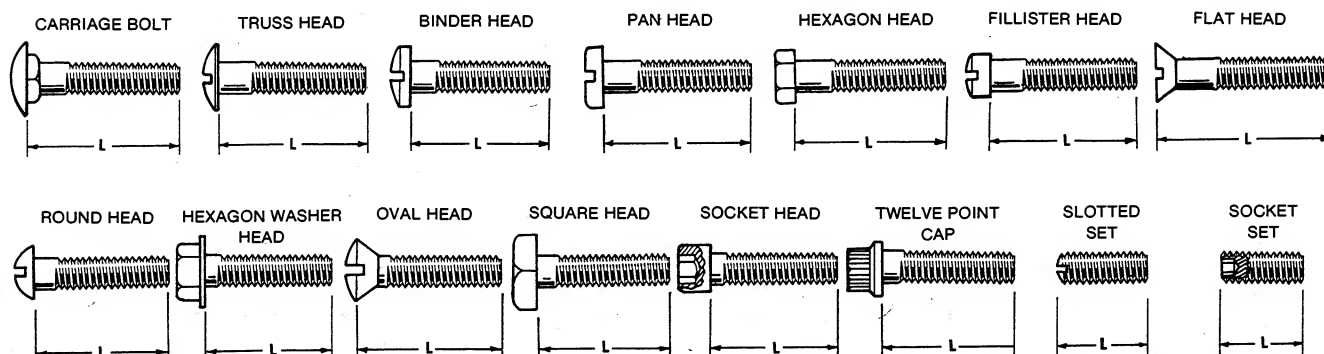
Illustrated hardware items are only for identification purposes. All hardware items listed throughout this parts catalog are steel SAE grade five (5) or lower (zinc plated with clear chromate dip) unless parts description indicates differently. All dimensions are in inches.

WASHER TYPES



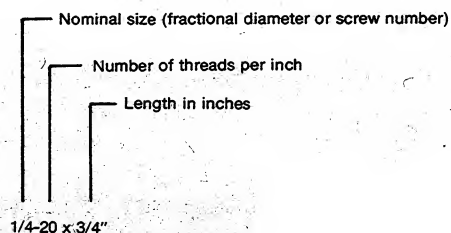
* - Flat washer dimensions given are: Inside Diameter (ID), Outside Diameter (OD) and Thickness (Thk).

BOLT AND SCREW TYPES



L - Measure length between these points.

INTERNAL DRIVE TYPES



NUT TYPES



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